
New Mesoamerican Species of *Dichorisandra* and *Tradescantia* sect. *Mandonia* (Commelinaceae)

Jason R. Grant

Laboratoire de Phanérogamie, Institut de Botanique, Université de Neuchâtel,
ch. de Chantemerle 18, 2007 Neuchâtel, Switzerland

ABSTRACT. Two new species of Commelinaceae are described from the Neotropics. *Dichorisandra amabilis* J. R. Grant, widespread from southern Mexico to Panama, consists of erect herbs formerly included in *D. hexandra* (Aublet) Standley, which is here restricted to scandent plants. *Tradescantia petricola* J. R. Grant, disjunct from Costa Rica to Venezuela, belongs to *Tradescantia* sect. *Mandonia* D. R. Hunt.

During preparation of the treatment of the Commelinaceae for the *Manual de las Plantas de Costa Rica*, two new species were encountered. In order that they may be included within this flora, they are here described as *Dichorisandra amabilis* J. R. Grant, and *Tradescantia petricola* J. R. Grant.

DICHORISANDRA

Dichorisandra is a taxonomically difficult genus not only at its northernmost extent in Mesoamerica and Mexico, but throughout its primary range in South America. While 25+ species are recognized in South America, the name *Dichorisandra hexandra* (Aublet) Standley has previously been used for an all-encompassing species of two or more distinct elements in Mesoamerica and Mexico, e.g., Hunt (1994) in *Flora Mesoamericana*. The description here of a species that ranges from southern Mexico to Panama attempts to alleviate some of the problems within the genus at the northern extent of its range.

Dichorisandra amabilis J. R. Grant, sp. nov.

TYPE: Costa Rica. Puntarenas: Cantón de Esparza, Macaona, 10°01'40"N, 84°36'33"W, 400 m, 26 July 1992, Hammel, Castillo & Herrera 18543 (holotype, US; isotypes, CR, F not seen, INB, MO). Figure 1.

Haec species *Dichorisandrae hexandrae* affinis, sed ab ea habitu erecto, caule robustiore, foliis secus axem principalem spiraliter dispositis, secus ramos laterales distichis, vagina foliari infra glabra ad apicem subtiliter pubescente atque inflorescentia ex thyro diffuso late ovato terminali constante distinguitur.

Free-standing, erect, single-stemmed, perennial herb to 1.5 m, upper half branched, arising seasonally from tuber-bearing roots. Roots thin, fibrous, often with distal tubers; tubers 3–5 × 0.5–1.5 cm, thick, succulent, tan. Stems robust, green to glaucous-blue, often with vertical white striations. Branches axillary, 4 to 9 in number. Leaves 6–20 × 1.5–7.5 cm, spirally arranged on the main axis, distichous on the lateral branches, sessile to petiolate, oblique, typically ovate-oblong, but varying from linear-lanceolate, ovate, elliptic, to obovate, basally acute to rounded, apically acuminate, firm but flexible, not leathery; sheaths glabrous, ciliate along the fused edge and toward the sheath summit; blades glabrous to sparsely scabrous, short-ciliate. Inflorescences raceme-like thyrses, terminal on both the main axis and the lateral branches, diffuse, broadly ovate to oblong in outline, (2–)5–8(–13) × (2–)3–5(–7) cm; peduncle 1–4 cm long, glabrous to velutinous; cymes (5) 10 to 15 (33) in number, 2–3.5 cm long, each subtended by a decrescent bract 5–60 × 2–4 mm. Flowers 2–15 per cyme, either bisexual (perfect) or male, both often blooming on a single cyme together on a given day, pedicellate. Pedicels 2–4 × 1 mm. Sepals 3, free, (5–)9–11 × 4–7 mm, unequal, green to white, glabrous, acute to obtuse to rounded at apex. Petals 3, free, 7–15 × 9–11 mm, obovate, pale blue, lilac, lavender, blue, purple, or white, rounded at apex. Stamens 6, equal, 8–11 mm long; filaments glabrous, 3–5 × 1 mm, antepetalous filaments shortly epipetalous at the base; anthers 6, dorsifixed toward the base, ovate in outline, base slightly cordate, 5–6 × 1–2 mm, dehiscing by two terminal pores, blue. Pistil 4–8 mm long; style slender, 2.5–6.0 mm; ovary glabrous, 1.5–2.0 × 1.5 mm. Capsules dehiscent, trilocular, 9–14 × 7–10 mm, oblong to obovate, often tinged purple, with 2 to 6 seeds per locule. Seeds robust, 4- to 6-sided, all sides 3.5–5.0 mm, ribbed to rugose, blackish with whitish indumentum on the sides facing other seeds, tan on the side(s) facing the wall of the locule; aril orange.

Dichorisandra amabilis ranges from the southern Mexican states of Veracruz, Oaxaca, and Chiapas



Figure 1. *Dichorisandra amabilis* J. R. Grant. —A. Habit. (A and E, Grant & Rundell 92-02007 in cultivation.) —B. Stem and underground tuber-bearing roots. (Based on Gómez 20749, NY.) —C. Flowering branch. (C and D based on Atwood & Neill AN140, NY.) —D. Detail of leaf sheaths. —E. Inflorescence; the upper opened flower is bisexual, the lower opened flower is male.

through Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica to the Darién of eastern Panama. Future collecting may reveal its presence in both Belize and the Chocó of Colombia. It occurs from sea level to 1650 m in altitude. In contrast, *Dichorisandra hexandra* has a continuous distribution from Peru and French Guiana to Panama and Costa Rica, and is disjunct in Belize. Although *D. amabilis* and *D. hexandra* are known from both Pacific and Atlantic slopes, *D. amabilis* tends to occur (or is at least collected more frequently) on Pacific slopes, and *D. hexandra* more so on Atlantic slopes (at least in Mesoamerica). Furthermore, *D. amabilis* is most commonly found in sunny, disturbed sites often near streams or on alluvial terraces, whereas *D. hexandra* is restricted to shady primary forest.

In morphology, *Dichorisandra amabilis* can generally be distinguished from *D. hexandra* in its erect, non-scandent habit, glabrous sheaths, and broadly ovate to oblong (rather than globose to slightly ovate) inflorescences. *Dichorisandra amabilis* also approaches *D. ulei* J. F. MacBrade from northern South America. The latter species, however, is a taller, more robust species with thick stems, densely villous leaf sheaths and peduncles, and generally longer (15–26 × 4–8.5 cm) leaves.

Three published names in *Dichorisandra* from northern South America were considered as potentially applicable to the erect Mesoamerican species. However, examination of their type material from Prague has revealed each to be synonymous with *D. hexandra*. These names are: *Dichorisandra ovalifolia* C. Presl, Reliq. Haenk. 1: 140. 1825; *D. inaequalis* C. Presl, Reliq. Haenk. 1: 140. 1825; and *D. mexicana* C. Presl, Reliq. Haenk. 1: 140. 1825 (likely from South America, not Mexico). These names are mentioned to indicate that each was in fact considered and eliminated, whereby it was definitively decided to name the Mesoamerican entity as a new species.

KEY TO THE NATIVE AND CULTIVATED SPECIES OF *DICHORISANDRA* IN MESOAMERICA

- 1a. Climbing, clambering, or trailing vines; stems slender to wiry; inflorescences terminal only on short, often remote, axillary branches, compact, globose to slightly ovate in outline; leaves always distichously arranged; leaf sheaths pilose throughout, or only along the fused edge; Belize, Costa Rica, and Panama to French Guiana and Peru . . . *Dichorisandra hexandra* (Aublet) Standley
- 1b. Free-standing, erect herbs; stems robust; inflorescences terminal on the main stem, also at the ends of axillary branches, diffuse, broadly ovate in outline; leaves spirally arranged at least on

main axis; leaf sheaths glabrous throughout to ciliate on the fused edge.

- 2a. Plants with multiple stems; sepals and petals both purple; anthers yellow; leaves spirally arranged on terminal as well as axillary branches; plants of cultivation, native to southeastern Brazil
..... *Dichorisandra thrysiflora* J. C. Mikan
- 2b. Plants with a single stem; sepals green to white, petals pale blue, lilac, lavender, blue, purple, or white; anthers blue; leaves spirally arranged on the main axis, while those on the axillary branches distichously arranged; plants native to Mexico (Veracruz, Oaxaca, and Chiapas), Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica to the Darién of eastern Panama
..... *Dichorisandra amabilis* J. R. Grant

Paratypes. MEXICO. **Chiapas:** Estación Biológica Chajul, Domínguez 160 (US). **Oaxaca:** Arroyo Hamaca, Wendt et al. 4161 (US); Sta. María, Hernández 1204 (MO, US). **Veracruz:** Poblado 6 (La Laguna), Wendt et al. 2674 (US); Poblado 2, Wendt et al. 5306 (US). GUATEMALA. **Alta Verapaz:** Cubilquitz, Tuerckheim 8325 (US). **Jutiapa:** Atescatempa, Heyde & Lux 6393 (MO, NY, US); San Jerónimo, Harmon & Dwyer 3331 (MO); Monson on Hwy. CA-8, Harmon & Fuentes 5918 (MO); San Cristobol along CA-2, Dunn et al. 23211 (MO, NY). **Petén:** San Luis, Ortiz 2185 (US). **Sololá:** Santa Bárbara, Shannon 245 (US). **Zacapa:** 41 mi. S of turnoff to Petén (near Morales), Croat 41875 (MO). EL SALVADOR. **Ahuachapán:** 23 mi. NW of San Francisco Menéndez, Croat 42088 (US); P.N. El Impossible, Toledo 6 (MO). **La Libertad:** Los Chorros, Sta. Tecla, Rohweder 628 (MO). **San Salvador:** San Salvador, Renson 181 (NY, US), Calderón 840 (US); Conchagua, Rohweder 633 (MO). **San Vicente:** Laguna de Apastepeque, Rohweder 624 (MO). **Santa Ana:** Río Amapo near Hacienda Agua Caliente, Rohweder 626 (MO); Santa Ana Metapán, Rohweder 629 (MO). **Sonsonate:** San Salvador-Sonsonate, Rohweder 625 (MO); Salvador, 9 km E of La Libertad, Horton 8648 (US). HONDURAS. Without exact locality, "eastern Honduras," Townsend s.n. (US). **Atlántida:** Tela, Standley 52700 (US); Lancetilla, Chickering 213 (MO), Yuncker 4743 (MO, NY); Lancetilla Botanical Gardens, Croat & Hannon 64592 (MO). **El Paraiso:** drainage of the Río Yeguare, Molina R. 4041 (MO, US), Molina R. 4124 (US); km 73 entre Ojo de Agua y Río California, Molina R. 14489 (NY); Las Manos, Cordillera Dipilto, Molina R. 30575 (MO). **Gracias a Dios:** Río Patuca, Wampusirpi, Clewell 4539 (MO). **Morazán:** Barrosas, Nolasco 130 (NY). **Olancho:** Pinares, Nelson & Romero 4656 (MO). NICARAGUA. Without province: Segovia District, Sangsangta, Schramm 55 (US). **Boaco:** El Portón, Stevens 9268 (MO, US); Cerro Mombachito, Stevens et al. 14710 (MO, US); Río Fonseca, "Los García," Moreno 10187 (MO, US); 4 km al Oeste de Boaco, Moreno 10201 (MO, US); Camoapa, Stevens 22986 (MO, US). **Carazo:** La Paz de Oriente, Moreno 10699 (MO, US). **Chinandega:** Ameya, Maxon et al. 7114 (US), Maxon et al. 7201 (US); Volcán Chonco, Sandino 1377 (MO); Santo Tomás del Nance, Moreno 11846 (MO, US); Volcán Casita, Montañas El Uval, Grijalva & Grijalva 1458 (MO, US). **Chontales:** Cuapa, Neill 7457 (CR, US), Stevens 3637 (MO, US), Nee & Sebastian 28471 (MO, US); 6 km E of Santo Tomás, Hernández & Stevens 618 (MO, US). **Estelí:** Salto de Estanzuela, Atwood & Neill AN140 (MO, NY,

US), Stevens et al. 14398 (MO, US), Castro et al. 1176 (MO, US), Soza et al. 146 (MO, US), Moreno 24390 (MO, US), Hernández et al. 637 (MO, US). **Granada:** Grenada de Nicaragua, P. Lévy 1060 (P); Volcán Mombacho, Atwood & Neill AN186 (MO, US), Moreno 1458 (MO, US), Moreno 1506 (MO), Moreno 2614 (MO, US), Sandino 1306 (MO, US), Sandino et al. 2906 (MO, US), Moreno 16465 (MO, US), Marin & Cisneros 137 (MO), Grijalva et al. 2902 (MO, US), Soza & Moreno 74 (MO, US); Comarca La Fuente, Guzmán et al. 604 (MO, US). **Jinotega:** El Cedro, Moreno 810 (MO, US). **Madriz:** San Juan de Río, Stevens et al. 17669 (MO). **Managua:** Casa Colorada, Maxon et al. 7375 (US); Las Nubes, Maxon et al. 7492 (US); El Crucero, Stevens 3511 (MO); along Hwy. 8 ca. 2.4 km SW of intersection with Hwy. 2, km 28, Stevens 3993 (MO, US); Río Los Mangos, Hwy. 12 bridge, Stevens 9788 (MO); carretera entre Las Conchitas y Masachapa, km 27–30, Guzmán & Castro 1956 (MO, US). **Masaya:** Laguna de Masaya, Neill 1034 (MO); Parque Nacional Volcán Masaya, Neill 4647 (MO); Jardín Botánico UCA, Sandino 3491 (MO, US). **Matagalpa:** Cerro Apante, Sandino 1517 (MO, US); Cerro El Apante Grande, Soza et al. 124 (MO, US); Ranchería, 11 km al NE de Muy Muy, Moreno 24454 (MO, US). **Nueva Segovia:** Ocotal, Quebrada El Nancital, Stevens 3086 (MO, US); San Fernando, Stevens 3219 (MO, US). **Río San Juan:** San Bartolo, Seymour 6212 (MO, US), Robbins 6222 (NY); Río Indio, Riviere 297 (MO). **Rivas:** Isla Ometepe, Volcán Concepción, La Concepción “El Floral,” Robleto 1049 (MO, US); Isla Ometepe, Volcán Maderas, “La Palma,” Robleto 1215 (MO, US). **Zelaya:** Río Punta Gorda, Atlanta, Moreno & Sandino 12842 (MO, US); Nueva Guinea, Araquistain 3023 (MO); Wany, Ortiz 44 (MO, US); Santa Rosa, Ortiz 66 (MO, US); Waspado, Ortiz 245 (MO, US); road between Nueva Guinea and Verdún, Miller & Sandino 1119 (MO, US); El Zapote, 6 km S of Colonia Verdún, Nee & Vega 27888 (MO); Sector Mina Nueva América, Ortiz 2148 (MO, US). **COSTA RICA.** **Alajuela:** San Ramón, Brenes 14430 (US); San Pedro de San Ramón, Brenes 4321 (NY), Brenes 11 (NY); Tapesco de Zarcero, Austin Smith 780 (NY); Zapote, Austin Smith 914 (NY); La Peña de Zarcero, Austin Smith 996 (NY); Quebrada Azul (San Carlos), Brenes 23069 (NY); San Rafael de Guatuso, Grecia, A. Jiménez 1084 (CR); Quebrada Lajas, Buena Vista de San Carlos, A. Jiménez 2318 (CR); N of San Ramón, Lellinger & White 1252 (CR, MO, US); 3 km NNE of Bijagua, Burger & Baker 9836 (MO). **Cartago:** Río Aguacaliente, Pittier 2634 (US); forêt de Tuis, Cartago, Tonduz 11360 (US); El Muñeco, Standley & Torres R. 51719 (US); Turrialba, Croat 588 (MO), Croat 590 (MO); Alto Velo de Novia, Lent 1013 (CR); 10 km S of Tapantí, Burger & Stolze 5626 (CR, MO, NY), Burger & Burger 7575 (CR); Tapantí Hydroelectric Reserve, Croat 36165 (US); Quebrada Cangreja, Liesner & Judziewicz 14482 (MO, US). **Guanacaste:** Tilarán, Standley & Valerio 44544 (US); Comeco Property near Bagaces, Opler 317 (CR); Parque Nacional Santa Rosa, Barringer et al. 4008A (CR); Parque Nacional Rincón de la Vieja, Rivera 664 (MO); 10 km S of Santa Cruz near Vista al Mar, Grant & Rundell 92–02007 (CR, US). **Heredia:** El Roble, F. L. Stevens 626 (US); Zona Protectora Q. Canta Rana Magsasay, I. Chacón 865 (CR). **Limon:** Forêts de Tsâki, Talamanca, Tonduz 9515 (CR); Río Reventazón below Cairo, Standley & Valerio 49008 (US); Toro Amarillo, Solís 23904 (CR); La Lola, Carlson 3274 (US); 10 mi. SW of Guápiles, Walker 181 (US); between Siquirres and the Río Pacuare, Burger & Liesner 6972 (US); Cahuita National Park, Hammitt 145 (CR); Lago Da-

bagri hasta Río Llei, Gómez et al. 23180 (MO, US); Parque Nacional Tortuguero, Estación Agua Fría, Robles 1215 (CR), Robles & Flores 1625 (CR), Solano 55 (MO, US); 12.5 km S of the San José–Limón Hwy. between Germania and Siquirres, Grant & Rundell 92–01948 (CR, US). **Puntarenas:** forêts du Río Naranjo, Tonduz 7657 (CR); Río Sándalo, Osa Peninsula, Dodge & Goerger 10080 (CR, MO, NY, US); Palmar Norte, along Río Grande de Téraba, Allen 5313 (NY, US); 8 km al SE de Golfito, A. Jiménez 2264 (CR, NY); entre Lagarto y Boruca, A. Jiménez 3472 (CR); Cabo Blanco Nature Reserve, Burger & Liesner 6669 (CR, NY); Miramar turnoff, Gentry 1330 (CR, NY); between Golfito and Río Claro, Maas & McAlpin 1438 (CR); Barón de Esparta, Ocampo 1307 (CR); Boruca, Buenos Aires, Ocampo 1396 (CR); Barranca Site, about 15 mi. N of Puntarenas, Janzen 10743 (MO); sendero entre Boca de Barranca y Cabezas, Gómez-Laurito 6865 (CR); Esparza, Macacona, Gómez 20749 (MO, NY, US); Corcovado National Park, Acevedo 515 (US); Santa Elena, S of Agua Caliente, Davidse et al. 28232 (US); Finca El Edén, km 193, R 2, Gómez 22949 (MO, US); 7 km SE of Quepos, Grayum & Sleeper 5925 (MO, US); Santa Elena to Coyolar de Guacimal, near Lomas Ángeles, Hammel 17105 (CR, MO); Parque Nacional Corcovado, Sirena, Ollas Trail, Kernan 1262 (CR, MO, US); Parque Nacional Guanacaste, Estación Maritza, Chavarría 170 (CR, MO, US); Parque Nacional Corcovado, Estación Sirena, Saborío 88 (INB, US); Reserva Absoluta Cabo Blanco, Chavarría 277 (INB, MO, US); Monteverde Cloud Forest Reserve area, Burger & Baker 9778 (CR), Dryer 885 (CR), Pounds 181 (MO), Haber & Zuchowski 10759 (CR, US); Las Cruces Biological Station (Wilson Botanical Garden) area, Raven 21803 (CR), Raven 21896 (CR, MO), Webster 21973 (CR), Burch 4545 (MO), Meerow et al. 2001 (CR), Grayum 3361 (US), Grayum 5599 (CR, MO, US), Kress & Di Stilio 94–4109 (US), Kress & Calderón 94–5207 (US). **San José:** bords du Tilirí, Tonduz 6952 (CR), Tonduz 8834 (US); La Palma, Stork 438 (US), Stork 430 (US); San Luis de Turrubales, Valerio 653 (CR); La Palma, trail to Guápiles, Burger 4139 (CR); Río Honduras, below Bajo La Honduras, Taylor & Taylor 11895 (NY); Río Claro Valley below La Palma, Burger et al. 9420 (CR); Parque Nacional Braulio Carrillo, Gómez-Laurito 6445 (CR); Montañas Jamaica, Carara Reserve, 9°45.5'N, 84°33'W, Grayum et al. 5867 (MO); Zona Protectora La Cangreja, Grayum 8626 (CR); Zona Protectora El Rodeo Ciudad, Colón, Q. Jiménez et al. 855 (CR, MO, US); Santa Rosa de Puriscal, Morales 313 (MO); Cantón de Santa Ana, Brazil de Santa Ana, Hammel et al. 19045 (INB, MO, US). **PANAMA.** **Bocas del Toro:** Water Valley, von Wedel 970 (MO, US), von Wedel 1431 (MO), von Wedel 1498 (MO), von Wedel 1542 (MO); Isla Colón, vicinity of Chiriquí Lagoon, von Wedel 2798 (MO, US), von Wedel 2798 (MO); Quebrada Huron on Cerro Bonyik, Kirkbride & Duke 608 (NY); La Zorra, Kirkbride & Duke 827 (MO, NY); 12 mi. from Río San Félix, D’Arcy 16318 (MO, US); Fortuna Dam area, D’Arcy 16401 (MO, US). **Chiriquí:** Puerto Armuelles, Woodson & Schery 824 (MO, US); San Bartolomé, Península de Burica, Woodson & Schery 883 (MO, NY); E of Gualaca, Allen 5029 (MO); Boquete, 6 mi. N of Concepción, Ebinger 750 (MO, US); N of San Félix, Mori & Kallunki 6007 (MO); Cerro Colorado, Bocas Road, Folsom & Collins 1736 (MO); Haras San Miguel, near Río Mula, Folsom 3950 (MO, US); Volcán to Río Serano, Folsom 4058 (MO, US); Cerro Colorado, Folsom et al. 4793 (US); “km 85,” Him 567 (MO, NY, US); road to Río Sereno from Volcán, Murphy 1104 (MO); Fortuna Dam area, Churchill 5387 (MO, US). **Co-**

clé: Cerro Valle Chiquito, *Seibert* 511 (MO, NY); between Las Margaritas and El Valle, *Woodson et al.* 1235 (MO, NY); El Valle, La Mesa, *Gentry* 5653 (MO); El Valle de Antón, *Allen* 1978 (MO, NY, US); Penonomé to Colecito, 9 km N of Llano Grande, *D'Arcy & Hammel* 12297 (MO); between Río Blanco and Caña Susio, *Sytsma et al.* 2468 (MO). **Colón:** Gatún, *Hayes* 177 (NY); 8 km NW of Gamboa, *Nee* 7598 (MO); Pipeline Road near Gamboa, *Schmalzel et al.* 775 (MO). **Darién:** road from El Real to Pinogano, *Duke* 5142 (MO, US). **Herrera:** road between Las Minas and Pesé, *Duke* 12306(3) (MO, NY); Alto de Las Minas, *Carrasquilla* 253 (MO). **Los Santos:** 17.8 mi. S of Macaracas, *Lewis et al.* 1602 (MO, NY); Loma Prieta, *Duke* 11865(3) (MO), *Lewis et al.* 2209 (MO, NY); Río Pedregal, 25 mi. SW of Tonosí, *Lewis et al.* 2912 (MO); Guaniquito, about 10 mi. N of Tonosí, *Luteyn & Foster* 1371 (CR, MO, US). **Panamá:** Cerro Gordo, near Culebra, *Pittier* 3740 (NY, US); Arraiján, *Woodson et al.* 1395 (MO, NY); Salamanca Hydrographic Station, Río Pequení, *Woodson et al.* 1593 (MO, NY); Río Pacora, *Bartlett & Lasser* 16959 (NY); Chilibre, *Dwyer* 1029 (US); Las Cruces Trail, E of Summit Gardens, *Welch* 19645 (MO, NY); halfway between El Llano and Río Mamoni, *Duke* 5539 (MO); Howard Air Force Base, *Tyson* 1862 (MO); 2 mi. SW of Guabala, *Lewis* 4345 (MO); Nuevo Emperador, *Rivera* E. 10 (MO); Cerro Azul, *Croat* 11517 (MO); Armour Trail, *Croat* 11666 (MO); Fort Kobbe, near Indo Beach, *Sullivan* 233 (MO); Farfan Beach, *D'Arcy & D'Arcy* 6061 (MO), *Sullivan* 576 (MO); Trocha C, Isla Bayana, Altos de Majé, *Garibaldi* 197 (MO); Curundu, 9°00'N, 79°35'W, 50 m, *Hamilton* 575 (MO, US); Barro Colorado Island, *Standley* 31354 (US), *Standley* 41139 (US), *Ebinger* 547 (MO, US), *Croat* 4323 (MO), *Croat* 6315 (MO); Madden Dam and Forest area (Parque Nacional Soberanía), Boy Scout Camp Road, *Dwyer & Elias* 7490 (MO), *Kirkbride* 46 (NY), *Kirkbride & Elias* 259 (MO, NY), *Hamilton & Stockwell* 1150 (MO, US), *Nee* 6546 (NY), *Croat* 11876 (MO), *Croat & Zhu* 77055 (MO). **Veraguas:** Río Dos Bocas between Escuela Agricola Alto Piedra and Calovebora, 15.6 km NW of Santa Fé, *Croat* 27751 (MO); Cerro Tute, *Witherspoon et al.* 8853 (MO), *McPherson* 10651 (MO).

TRADESCANTIA SECT. *MANDONIA* D. R. HUNT

Tradescantia petricola J. R. Grant, sp. nov.

TYPE: Costa Rica. Guanacaste: Cantón de Bagaces, Parque National Palo Verde, Valle del Tempisque, Sendero Guayacán, 10°21'00"N, 85°21'00"W, 10 m, 6 Sep. 1994, *Chavarría* 1035 (holotype, US; isotypes, CR not seen, INB, MO not seen). Figure 2.

Haec species *Tradescantiae velutinae* Kunth & C. D. Bouché et *T. ambiguæ* Martius affinis, sed ab ambabus caulinis pedicellis et sepalis glabris ab illa sepalis longioribus atque seminibus majoribus, robuste costatis, nigriscentibus, 2–3.3 × 1.2–1.5 mm metentibus distinguitur.

Robust perennials, rather clumsily erect to somewhat decumbent, arising seasonally from tuber-bearing roots, not rooting at the nodes. Stems green, suffused with reddish purple between vertical white striations, from a distance appearing checkered

from the green of the stem and whitish green of the sheaths. Leaves spirally arranged, succulent; sheaths 0.5–1.5 cm long, markedly different in color from the blade, whitish or with green tinge with vertical veins standing out in light green, just shorter in length than the leaf internodes, glabrous, blades sessile, (5–)13–23 × (1–)3–5 cm, lanceolate-oblong with a strong-impressed false midrib, acuminate to acute at apex, rounded to cordate at base, glabrous and lustrous above, the stomates so large as to give a pocked appearance to the blade; abaxial surface puberulous; leaf margins maroon, entire, undulate to crispate, ciliolate; leaves strongly decrescent on the flowering shoot. Inflorescences terminal and axillary, sessile to subsessile. Bracts strongly unequal when paired, acuminate, 8–60 × 3–15 mm, with vestiture as in the leaves. Pedicels glabrous, green, erect, white below, 11–13 mm long, recurved after flowering. Flowers bisexual, without any noticeable scent, 15–20 mm wide. Sepals 3, not reflexed, navicular, 5–8 × 2–3.5 mm, lanceolate-elliptic, green or tinged with reddish purple, becoming mostly reddish purple post anthesis, abaxial acute and glabrous, adaxial pair cucullate with a small apical tuft of eglandular hairs. Petals 3, pale lavender, white medio-basally, 8–11 × 7.5–9(–11) mm, broadly ovate, apically obtuse, free to the base. Stamens 6, equal, fertile, spreading; filaments white proximally, lavender and densely bearded with long, white moniliform hairs, 2–3 mm, distally; anthers basifix, reniform; connective deltate; anther sacs small and distal, dehiscing downward; pollen bright yellow. Ovary ovoid, white, densely puberulous apically; style irregularly bent distally, lavender but white in proximal third and just below the stigma; stigma white, capitate. Capsule ca. 5 mm, oblong-ellipsoid, dehiscent. Seeds dark gray to black, coarsely 12-ribbed radially, whitish gray in depressions, narrowly trigonal, 2–3.3 mm long, 1.2–1.5 mm wide, 1 mm thick; hilum linear; embryotega dorsal.

Tradescantia petricola is known best from the tropical dry forest of Parque Nacional Palo Verde, Guanacaste, Costa Rica, where it is locally abundant in the forest understory on low limestone hills. It grows in tight crevices on vertical rock ledges and large boulders, hence the epithet. It is to be expected in adjacent areas with similar vegetation and geology, such as Parque Nacional Barra Honda. Three collections from Venezuela are also tentatively placed here.

Tradescantia petricola (Costa Rica, Venezuela) is notable in its essentially glabrous stem, pedicels, and sepals, though the sepals (5–8 × 2–3.5 mm)

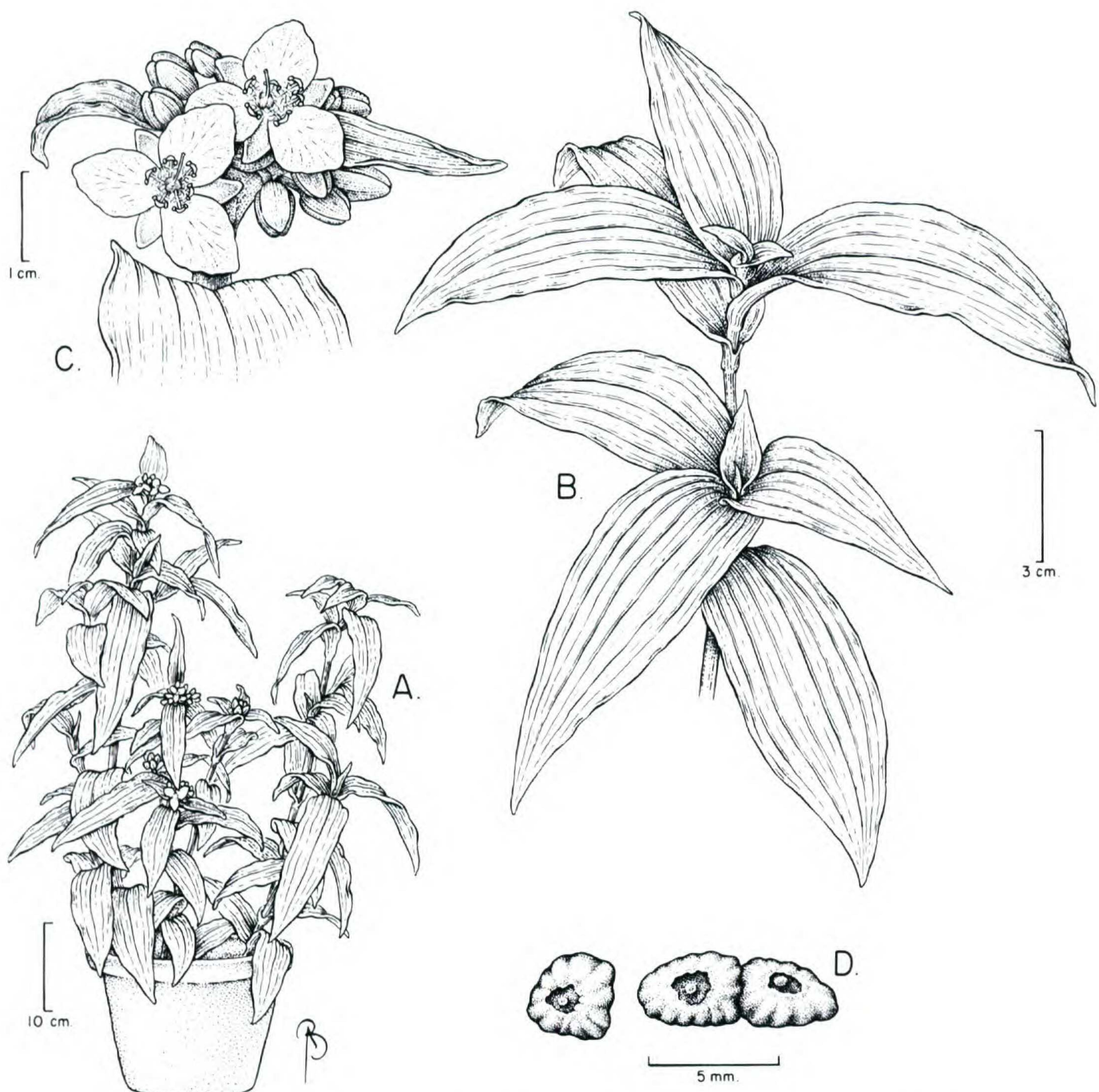


Figure 2. *Tradescantia petricola* J. R. Grant. —A. Habit. —B. Upper stems before flowering. —C. Inflorescence. —D. Seeds. (A–D Grant & Rundell 95-02347 in cultivation.)

often have an apical tuft of eglandular hairs. Its seeds are robustly ribbed, $2\text{--}3.3 \times 1.2\text{--}1.5$ mm, and are dark gray to blackish. Both *T. velutina* (Guatemala, Honduras, Nicaragua) and *T. ambigua* (northeastern Brazil) have pilose inflorescences. *T. velutina* has shorter sepals (2.5–4.5 mm long) that are velutinous to short tomentose, and tan, $1\text{--}2 \times 1$ mm seeds. *T. ambigua* has pilose sepals, 8(–9) mm long.

In Costa Rica, *Tradescantia petricola* flowers in the rainy season from late September to November. Flowering begins with the appearance of a cincinnus in the axis of each of the upper 5 to 6 leaves; however, no paired bracts are yet visible. As the inflorescences grow, they become increasingly more

complex. While most inflorescences are subtended by a pair of bracts typical of the genus, some have only a single bract, or rarely, none at all. In maturity, each inflorescence may consist of complex clusters of up to 5 or more inflorescences with single or paired bracts on short axillary shoots.

Paratypes. COSTA RICA. Guanacaste: Parque Nacional Palo Verde, Área Conservación Tempisque, Estación Palo Verde, Sendero Cactus, $10^{\circ}20'00''\text{N}$, $85^{\circ}21'10''\text{W}$, 10–100 m, 12 Dec. 1990, Chavarría 195 (INB), 27 May 1995, Grant & Rundell 95-02347 (CR, US). VENEZUELA. Falcón: 4 km SSW of Mene de Mauroa (ca. 4 km from border with Zulia State), Distrito Mauroa, 100 m, 1/9 1984, Wingfield 13005 (US). Lara: Agua Blanca, cerca de Barquisimeto, 1930, H. C. 126 (VEN);

Largo de Valencia, Isla el Horno, 18 Sep. 1952, *Var.* & *Gessner* 1875 (VEN).

Acknowledgments. I thank the staffs of the following herbaria for assistance during my visits to examine material: COL, CR, G, GH, INB, MO, NY, P, R, RB, US, and VEN, and for the loan of herbarium specimens from CR, INB, PR, and VEN. Barry Hammel and Michael Grayum provided much support and encouragement for my research on *Dichorisandra*. Barry Hammel, Robert Faden, and two anonymous reviewers meticulously edited

the manuscript. Bobbi Angell skillfully prepared the line drawings of both *Dichorisandra amabilis* and *Tradescantia petricola*. I especially thank Robert Faden for sharing his wealth of knowledge on the Commelinaceae.

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